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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/544,423	04/06/2000	Daniel Joseph Ondrus	200-0500	7482

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EXAMINER	
KOCH, GEORGE R	
ART UNIT	PAPER NUMBER
1734	

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/544,423	ONDRUS, DANIEL JOSEPH	
	Examiner	Art Unit	
	George R. Koch III	1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 February 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *23,25,26,31,33,34 and 36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *23,25,26,31,33,34 and 36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 23, 25, 26, 31, 33, 34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,759,489 to Pigott in view of Adhesives Handbook, (pages 1-19, 28-31, 40-43 and 94).

Pigott discloses an assembly line method (see column 3, lines 3-34) wherein a variety of joints are made by use of adhesive (see Fig. 4 and column 4, lines 53-64, see Fig. 17 and column 5, lines 1-10, and Fig. 19, columns 22-33). The joints are provided between a first member and a second member as claimed. Pigott also discloses that the joints would be of use in vehicles such as automobile bodies (Abstract, line 1).

Pigott does not disclose depositing adhesive up to fifty percent of the coverage portion and up to ten percent of the fill portion to form the joint between the first and second member, so that seepage of the adhesive from the joint is a minimum while stress transfer of the joint is a maximum. Nor does Pigott disclose the various areas and length percentages. Pigott also does not disclose that the adhesive is viscous, and is silent in this regard.

However, an assembly line method would inherently have a predetermined coverage length, and the coverage percentage would be a predetermined percentage of

the coverage length. Furthermore, an assembly line method would by definition have a predetermined coverage length, and the coverage percentage would be a predetermined percentage of the coverage length.

Furthermore, with respect to the various adhesive coverage areas recited and claim, it is known that bond strength increases with adhesive coverage area, but that the risk of seepage also increases with adhesive coverage area. One of ordinary skill in the art would know to conduct routine experimentation as suggested in Adhesives Handbook pages 18-20 in order to find the best coverage area for creating the strongest bond without the risk of adhesive seepage that can damage the end product. Adhesives Handbook pages 18-20 discloses that the stress profile, i.e., maximum stress transfer would depend on the intended use of the joint, and that experimentation would determine the optimal adhesive especially with regard to desired overlaps, i.e., coverage and fill areas (see, for example, Adhesives Handbook figures 2.4, 2.5 and 2.6 in page 19 which shows analysis of bond strength, and especially discloses in Figure 2.5 the relationship between length and width of a bond and maximum bond strength). Furthermore, it is considered notoriously well known and conventional in assembly line methods to minimize adhesive seepage. Minimizing adhesive seepage prevents damage to the substrate as well as reduces adhesive consumption. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have conduct routine experimentation to achieve the coverage areas claimed in order to balance the twin demands of bond strength and reduced seepage.

With regard to the adhesive being viscous, Adhesive Handbook discloses that epoxy adhesives, a viscous adhesive, are often used in automobile applications (see pages 42, first column). Adhesive handbook also discloses that epoxy adhesives have high cohesive strength and low shrinkage and creep. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used a viscous adhesive such as epoxy adhesives in order to achieve the benefits of high cohesive strength and low shrinkage and creep, both of which are factors that maximize stress transfer and minimize seepage.

Furthermore, as to claim 31, Pigott discloses a number of joints wherein the first member includes a coverage portion and flange fill portions as claimed. See Figure 4.

Furthermore, as to claims 25, 26, 31, 33, 34, and 36, Adhesives Handbook discloses many well known joints, including lap joints as in claim 36 (page 8, Figure 2.2, picture d), one half coach joints as in claim 26 and 34 (see page 11, and page 12, top row, third and fourth figure) and full coach joints as in claims 25 and 33 (for example, see page 12, top row, third and fourth figure). As to claim 31, Adhesives handbook also discloses joint members with arcuate portions in the variety of coach joints. One in the art would appreciate that all of these joints are well known, have certain favorable loading characteristics (see Adhesives Handbook, pages 8, 18 and 19), and would utilize routine experimentation such as a stress analysis as disclosed in Adhesives Handbook to determine the appropriate joint. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the claimed

joints disclosed in Adhesives Handbook in order to achieve proper stress handling characteristics.

As to claim 29 and 30, the claimed dimensions are considered achievable based on the stress analysis disclosed in Adhesives Handbook and applied to claim 23 above.

3. Claims 23, 25, 26, 31, 33, 34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,849,122 to Kenmochi in view of Adhesives Handbook, (pages 1-19, 28-31, 40-43 and 94).

As to claims 23 and 31, Kenmochi discloses an assembly line method for making vehicle components wherein the joints are made substantially identical manner. From Figures 2 and 3 the exemplary joint is clearly a lap joint, i.e, a joint between a first member and a second member as in claim 28. As stated before, an assembly line method by definition includes performing the same task in a substantially identical manner on multiple items on the assembly line. Kenmochi discloses an asphalt based adhesive (see column 5) which is considered an viscous adhesive.

Kenmochi does not disclose depositing adhesive up to fifty percent of the coverage portion and up to ten percent of the fill portion to form the joint between the first and second member, so that seepage of the adhesive from the joint is a minimum while stress transfer of the joint is a maximum.

However, an assembly line method would inherently have a predetermined coverage length, and the coverage percentage would be a predetermined percentage of the coverage length. Furthermore, an assembly line method would by definition have a

predetermined coverage length, and the coverage percentage would be a predetermined percentage of the coverage length.

Furthermore, with respect to the various adhesive coverage areas recited and claim, it is known that bond strength increases with adhesive coverage area, but that the risk of seepage also increases with adhesive coverage area. One of ordinary skill in the art would know to conduct routine experimentation as suggested in Adhesives Handbook pages 18-20 in order to find the best coverage area for creating the strongest bond without the risk of adhesive seepage that can damage the end product. Adhesives Handbook pages 18-20 discloses that the stress profile, i.e., maximum stress transfer would depend on the intended use of the joint, and that experimentation would determine the optimal adhesive especially with regard to desired overlaps, i.e., coverage and fill areas (see, for example, Adhesives Handbook figures 2.4, 2.5 and 2.6 in page 19 which shows analysis of bond strength, and especially discloses in Figure 2.5 the relationship between length and width of a bond and maximum bond strength). Furthermore, it is considered notoriously well known and conventional in assembly line methods to minimize adhesive seepage. Minimizing adhesive seepage prevents damage to the substrate as well as reduces adhesive consumption. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have conduct routine experimentation to achieve the coverage areas claimed in order to balance the twin demands of bond strength and reduced seepage.

Furthermore, as to claims 25, 26, 28, 31, 33, 34, and 36, Adhesives Handbook discloses many well known joints, including lap joints as in claim 36 (page 8, Figure 2.2,

picture d), one half coach joints as in claim 26 and 34 (see page 11, and page 12, top row, third and fourth figure) and full coach joints as in claims 25 and 33 (for example, see page 12, top row, third and fourth figure). As to claim 31, Adhesives handbook discloses joint members with arcuate portions in the variety of coach joints. One in the art would appreciate that all of these joints are well known, have certain favorable loading characteristics (see Adhesives Handbook, pages 8, 18 and 19), and would utilize routine experimentation such as a stress analysis as disclosed in Adhesives Handbook to determine the appropriate joint. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the claimed joints disclosed in Adhesives Handbook in order to achieve proper stress handling characteristics.

As to claim 29 and 30, the claimed dimensions are considered achievable based on the stress analysis disclosed in Adhesives Handbook and applied to claim 23 above.

Response to Arguments

4. Applicant's arguments filed 2/2/2004 have been fully considered but they are not persuasive.

5. With regard to information concerning coverage and fill areas, Adhesives Handbook has been cited as a disclosure of the known relationship of bond area and bond strengths.

6. Applicant's other arguments mainly focus on details of the reference not excluded by applicant's claims. For example, the discussion of the mating locations of Pigott,

precision drilled holes, and arrangement of workstations on page 5-7 is not excluded by applicant's claims. Similarly, in page 8, the fact that the members in Kenmochi are honeycomb panels or some of the more particular details such as having structural member is not excluded by applicant's claims (or even applicant's specification, for that manner).

Furthermore, the joints disclosed by Kenmochi and Cornille include joints that would have a second fill portion extending from the second point to a line that is collinear to the tangent portion.

7. Applicant argues that an assembly line method would NOT have a predetermined coverage length, and the coverage percentage would be a predetermined percentage of the coverage length, and furthermore, an assembly line method would NOT by definition have a predetermined coverage length, and the coverage percentage would NOT be a predetermined percentage of the coverage length. However, predetermined merely means "to determine beforehand". As applicant points out, an assembly line includes an arrangement of machines, equipment and workers in which the work passes from operation to operation in direct line until the product is assembled. These operations are considered predetermined, since an assembly line has to be determined beforehand. Furthermore, Pigott and Kenmochi dislclose adhesive application and work steps. Therefore, these steps are predetermined, i.e., determined beforehand. This lengths and percentages need not be consistent - i.e., they may be variable. Predetermined does not imply consistency.

Furthermore, as to the dimensions of the fill and coverage areas, Adhesives Handbook discloses this known relationship.

8. Furthermore, applicant's arguments as to routine experimentation are not considered persuasive, as Adhesive Handbook discloses that routine experimentation is often necessary, and the fact that applicant has defined non-disclosed terms (such as fill portion and coverage portion) does not negate that routine experimentation would have inherently involved experimentation of these variables.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (571) 272-1230 (TDD only). If the applicant cannot make a direct TDD-to-TDD call, the

applicant can communicate by calling the Federal Relay Service at 1-800-877-8339 and giving the operator the above TDD number. The examiner can normally be reached on M-Th 10-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

George R. Koch III
March 20, 2004

RICHARD CRISPINO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700